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Sherman D. Basinger
Primary Examiner
Art Unit 3617

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FAX (703) 872-9306

Re: Application # 10/712,227
File Date 11/14/2003
Applicant Frank Messano

Subject: INFORMAL REVIEW OF CORRECTIONS RELATING TO OFFICE ACTION SUMMARY

Please find enclosed preliminary REWORKED CLAIMS FOR INFORMAL REVIEW.

It seems that my three independent set of claims could be simplified into two sets of independent claims to eliminate a lot of redundancy. The total number of claims remains 23.

In addition, I have made the changes listed in your Office Action, and want to be clear on the format necessary for their return to you. I've included the first page of the specifications and drawing page 8 for guidance.

After you have had a chance to look these changes over, please telephone me between 8:00AM and 11:00AM PDT... at (360) 376-6428.

Thank you,

A handwritten signature in black ink, appearing to be "FM", is written over a horizontal line.

Frank Messano

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Informal review of tentative claims to replace Claims 1 through 23.

The three independent claims were reduced to two independent claims, with the total number of claims remaining 23 claims as originally submitted.

REWORKED CLAIMS FOR INFORMAL REVIEW:

24. An amphibious recreational vehicle comprising:
an expandable width watertight hull below the cabin which consists of outer-hulls hinged to a central hull, when expanded, forms a one-piece wide-beam modified cathedral planing hull comprising:
a central hull;
an outer-hull on each longitudinal side of the central hull;
a plurality of planing surfaces on the hulls;
a plurality of land travel wheels within the outer hulls;
a hinge mechanism coupling the outer-hulls as to be pivotally positioned under the central hull for land travel, and positioned adjacent to the central hull for water travel while also raising the land travel wheels out of the water;
and a ground effects lifting tunnel between the hulls.
25. The amphibious vehicle of Claim 24, wherein there is a movable tapering device to reduce the cross-sectional area in the rearward portion of the ground effects lifting tunnel to increase dynamic lift.
26. The amphibious vehicle of Claim 24, wherein there is a provision for marine propulsion.
27. The amphibious vehicle of Claim 24, wherein there is a powered actuator to pivot the hulls between the land travel and water travel positions where the powered actuator is fully above the waterline for water travel.
28. The amphibious vehicle of Claim 24, wherein there is a recreational vehicle cabin;

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29. The amphibious vehicle of Claim 24, wherein upon the cabin rooftop is a fold-down flying bridge deck consisting of bulwarks on multiple sides of the roof top, a plurality of fold-down safety rails on multiple sides of the rooftop, a rooftop steering station, and a plurality of fold-down seating affixed to the rooftop.
30. The amphibious vehicle of Claim 24, wherein the flying bridge has a fold-down windshield.
31. The amphibious vehicle of Claim 24, wherein the flying bridge has a fold-down mast array.
32. The amphibious vehicle of Claim 24, where the rooftop fold-down flying bridge deck has a raising and lowering cover, which in the lowered position covers the flying bridge deck and when raised is a canopy to protect the occupants from the sun and rain.
33. The amphibious vehicle of Claim 24, where the vehicle has an interior space expanding slide-out on one or more sides of the cabin.
34. The amphibious vehicle of Claim 24, wherein a rear boarding deck with an affixed deployable stairway provides a means for access from the ground to the cabin when the vehicle is on land.
35. The amphibious vehicle of Claim 24, wherein a marine propulsion unit is located within the hull(s).
36. The amphibious vehicle of Claim 24, wherein one or more hydrofoils under the central hull are positioned to allow the outer-hulls to pivot without interference with the hydrofoils.
37. The amphibious vehicle of Claim 24, wherein the vehicle is a towable travel trailer.
38. The amphibious vehicle of Claim 24, wherein the vehicle is a motorhome.
39. The amphibious vehicle of Claim 24, wherein the vehicle is a truck.

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40. The amphibious vehicle of Claim 24, wherein the vehicle is a bus.
41. The amphibious vehicle of Claim 24, wherein the vehicle is a van.
42. The amphibious vehicle of Claim 24, wherein each of the land travel wheels are modular & interchangeable Universal-Motor Power Suspension Modules, each being powered with an integral electric drive motor-regenerative braking generator, and where the marine propulsion source is powered by electric motors that are all cabled to a central energy source of Energy Storage Units and a multiplicity of Gensets. The Storage units are comprised of batteries and or capacitors. The multiplicity of Gensets is comprised of a single type, or combination of, generators, alternators, fuel cells, and solar cells;

and all coupled by means of a central controller for providing individualized current flow between motors and energy sources with a protocol of operating the minimum number of Gensets at any one time as is adequate for meeting the current energy demands of the Energy Storage Units and the motors, and where the Energy Storage Units and the Gensets act in series-parallel for extreme incremental peak demands of the motors;

and where each Universal-Motor Power Suspension Module is comprised of:

the integral electric drive motor-regenerative braking generator;
a wheel, disc brake, and tire;
a means of independent suspension;
a pivot means for directionally steering the wheel;
a link means for locking the direction of the wheel steering to one position;
an adjustable wheel-to-vehicle ride-height means;

and where the Universal-Motor Power Suspension Modules are interchangeably used on both sides of the vehicle.

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43. A recreational vehicle drive system comprising:
Modular land travel wheels & interchangeable Universal-Motor Power Suspension Modules, each being powered with an integral electric drive motor-regenerative braking generator, and where the marine propulsion source is powered by electric motors that are all cabled to a central energy source of Energy Storage Units and a multiplicity of Gensets. The Storage units are comprised of batteries and or capacitors. The multiplicity of Gensets is comprised of a single type, or combination of, generators, alternators, fuel cells, and solar cells;

and all coupled by means of a central controller for providing individualized current flow between motors and energy sources with a protocol of operating the minimum number of Gensets at any one time as is adequate for meeting the current energy demands of the Energy Storage Units and the motors, and where the Energy Storage Units and the Gensets act in series-parallel for extreme incremental peak demands of the motors;

and where each Universal-Motor Power Suspension Module is comprised of:
the integral electric drive motor-regenerative braking generator;
a wheel, disc brake, and tire;
a means of independent suspension;
a pivot means for directionally steering the wheel;
a link means for locking the direction of the wheel steering to one position;
an adjustable wheel-to-vehicle ride-height means;

and where the Universal-Motor Power Suspension Modules are interchangeably used on both sides of the vehicle.

44. The recreational vehicle of Claim 43, wherein the lower section of the vehicle comprises:
an expandable width watertight hull consisting of outer-hulls hinged to a central hull, when expanded, forms a one-piece wide-beam modified cathedral planing hull comprising:
a central hull;

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an outer-hull on each longitudinal side of the central hull;
a plurality of planing surfaces on the hulls;
a plurality of land travel wheels within the outer hulls;
a hinge mechanism coupling the outer-hulls as to be pivotally positioned under the central hull for land travel, and positioned adjacent to the central hull for water travel while also raising the land travel wheels out of the water;
and a ground effects lifting tunnel between the hulls.

45. The amphibious vehicle of Claim 43, wherein the land vehicle is a truck.
46. The amphibious vehicle of Claim 43, wherein the land vehicle is a bus.
47. The amphibious vehicle of Claim 43, wherein the land vehicle is an automobile.

Inv ntor. Frank Messano
 AMPHIBIOUS RECREATIONAL VEHICLE
 Drawing Sheet 8 of 8

FIG. 34

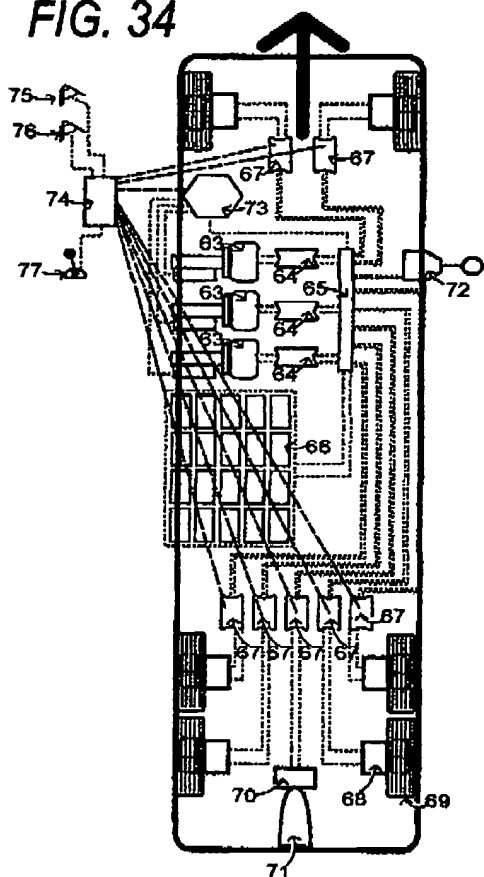


FIG. 35

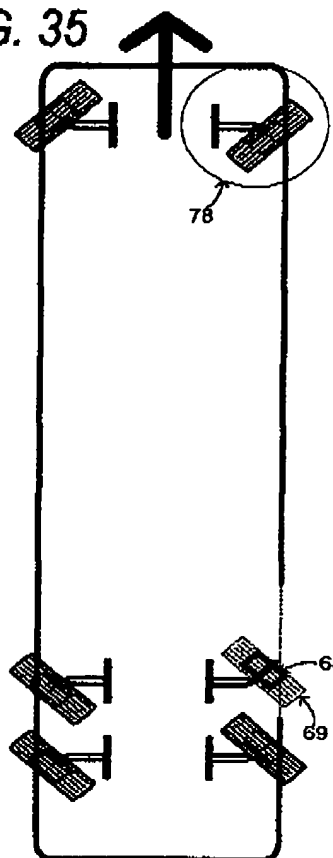


FIG. 36

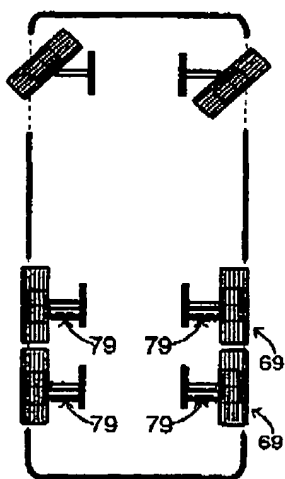


FIG. 37

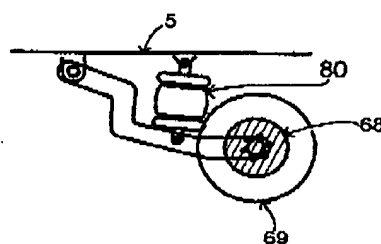
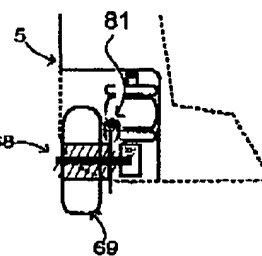


FIG. 38



Amphibious Recreational Vehicle

CROSS-REFERENCE TO RELATED APPLICATIONS

This is a continuation-in-part of application number 10/177,314 filed June 24, 2002, now patent 6,679,543 which is a continuation-in-part of application number 09/766,996 filed January 23, 2001, now patent 6,425,625.

~~This Amphibious Recreational Vehicle patent application is a Division of Application 10/177,314 entitled "Comprehensive Vehicle Construction And Hybrid Electric Drive System", which was a Continuation In Part of my patent application # 09/766,966 (now US Patent 6,425,625) - Rooftop Deck Systems For Vehicles.~~

~~And it is related to my Amended Application of 26 August 2003 - now entitled Recreational Vehicle Full Length Slideout System, which too was a Division of the original Application 10/177,314.~~

Application 10/177,314 - Comprehensive Vehicle Construction And Hybrid Electric Drive System was a CIP of Application No. 10/142,403 - Seating, Handrails & Canopy For Rooftop Systems, which relates to my previous US Patent 6,237,988 - STREAMLINE ROOFTOP DECK FOR MOTORHOMES.

Application No. 10/142,403 is now abandoned.

FIELD OF THE INVENTION

The present invention relates to construction features of amphibious land and water craft, and more particularly an amphibious recreational vehicle that has all the attributes of a conventional recreational vehicle (motorhome, travel trailer, fifth-wheel trailer, van, SUV, and the like) when on land, and that has all the attributes, speed, stability, outside decks, and